

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



552265

**(43) International Publication Date
14 October 2004 (14.10.2004)**

PCT

(10) International Publication Number
WO 2004/088387 A1

(51) **International Patent Classification⁷:** G02B 21/16,
21/06, 21/00

[IT/IT]; Via Milano, 20, I-27021 Bereguardo (IT). **BARALDO**, Natale [IT/IT]; Via San Martino, 22/a, I-20037 Paderno Dugnano (IT). **BIGLIATI**, Claudia [IT/IT]; Via Montenero, 18, I-13039 Trino (IT). **SCODES**, Luca [IT/IT]; Via Mazzini, 90, I-20079 Sant'Angelo Lodigiano [IT/IT].

(21) International Application Number:

(25) *Ellipses*

© 2010 Pearson Education, Inc.

(20) Publication Language: English

(30) Priority Data: MI2003A000650 2 April 2003 (02.04.2003) IT

(71) **Applicant (for all designated States except US): FRAEN CORPORATION S.R.L. [IT/IT]; Via Senato, 20, I-20121 Milano (IT).**

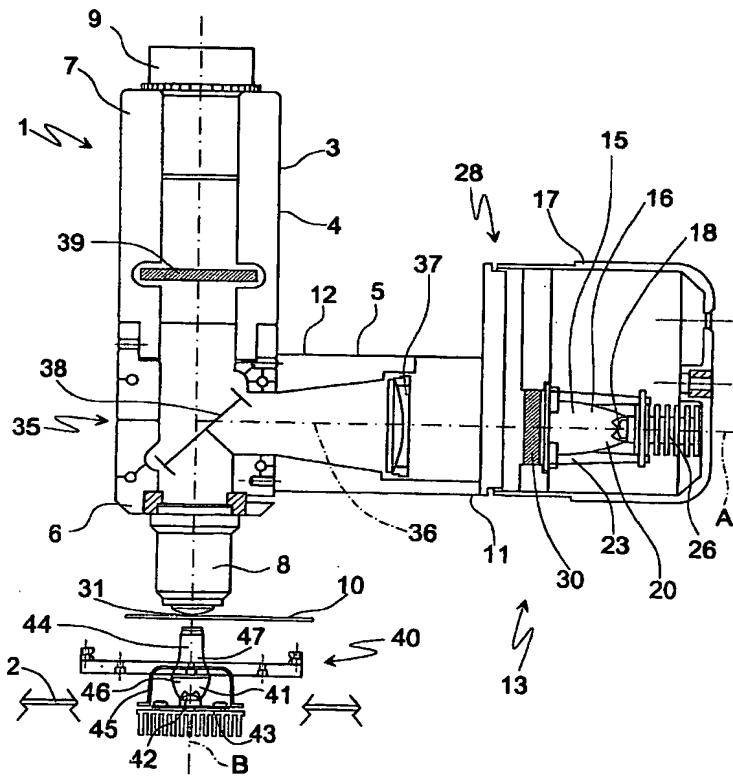
(72) Inventors; and
(75) Inventors/Applicants (*for US only*): ANGELINI, Marco

(74) **Agents:** **JORIO, Paolo** et al.; Studio Torta S.r.l., Via Viotti, 9, I-10121 Torino (IT).

(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: LIGHTING ASSEMBLY FOR A LUMINESCENCE ANALYSIS APPARATUS, IN PARTICULAR A FLUORESCENCE MICROSCOPE, AND LUMINESCENCE ANALYSIS APPARATUS EQUIPPED WITH SUCH A LIGHTING ASSEMBLY



(57) Abstract: A luminescence analysis apparatus (1), in particular for fluorescence microscopy, has a lighting assembly (13) having a lighting unit (15) which includes a preassembled module (16) housed inside a housing (17); the module (16) is defined by a LED (18) mounted on a plate (19), and by an optical collimating element (20) connected integrally to the LED (18) and located in close proximity to the LED (18); the optical element (20) is a catadioptric collimator made of transparent plastic material and designed to internally convey and transmit the light emitted by the LED (18), so as to generate a substantially parallel beam of light rays which is directed onto a luminescent sample (31) for analysis.



- (84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- with international search report